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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/334,974	06/17/99	FOSTER	D 115-3189-U

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EXAMINER	
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ART UNIT	**PAPER NUMBER**
1753	3

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad mark

Office Action Summary

Application No.	Applicant(s)
09/334,974	Foster et al.
Examiner	**Group Art Unit**
Gregg Cantelmo	1753

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1, 2, 4, 5, 7-24, 26-36, and 55-63* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1, 2, 4, 5, 7-24, 26-36, and 55-63* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 2, 10, 11, 21, 22, 29, and 30 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1, 2, 10-12, 22, and 29-30 recite the term "plating." The only type of plating disclosed in the specification is electroplating. There is no support for any other plating process other than electroplating. Therefore applicant does not have support for a genus of platings but only for the species of electroplating and is not entitled to claim plating processes beyond that scope since the specification lacks enablement for any other "plating" means.

3. Claims 1, 3, 11, 14-21, 30, and 33-36 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. These claims recite a vapor depositing step. The examiner has read the specification to ascertain the type(s) of vapor deposition applicant is

claiming. Therein the only disclosure is directed to physical vapor deposition (PVD). Vapor deposition alone can also refer to chemical vapor deposition which is apparently not disclosed as a suitable vapor deposition means whereas PVD is. Therefore, these claims should be amended by changing "vapor deposition" to physical vapor deposition to overcome this rejection.
Again applicant does not have support for a genus of platings but only for the species of electroplating and is not entitled to claim plating processes beyond that scope since the specification lacks enablement for any other vapor deposition other than physical vapor deposition processes.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4-9, 12-13, 17, 20-24, 26-32, and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 4 fails to distinguish between what the refractory metal is and the refractory metal alloy is. Applicant similarly fails to adequately distinguish between various groupings in claims 5, 6, 7, 8, 9, 12, 13, 23, 24, 26, 27, 28, 31, and 32. Applicant is advised to amend these claims as done in the parent case (U.S. patent No. 5,879,532) wherein such claims clearly distinguish the groupings in each respective claim.

7. Claim 6 recites the phrase "refractory metal or refractory metal alloy" at lines 3-4 it is unclear as to whether applicant is referring to the same ones recited in the previous claim or not.

This also applied to claims 7 and 26.

8. Claim 10 recites the phrase "at least a portion" at lines 3-4 it is unclear as to whether applicant is referring to the same portion recited in claim 1 or not. This rejection also applies to instant claims 21 and 29.

9. Claim 11 recites the phrase "at least one layer" at line 1. It is unclear whether this layer is the same as that recited in claim 1 or not. This rejection also applies to instant claims 22 and 30.

10. Claim 17 recites the limitation "the reaction products" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. This rejection also applies to instant claims 20 and 36.

11. Claim 20 also recites the phrase "zirconium-titanium alloy layer." It is unclear what is meant by such a phrase.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 1-2, 4-5, 7-9, 21-24, 26-28, and 55-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent No. 5,413,874 (Moysan '874) in view of European Patent Application No. 0 486 711 A1 (EP '711).

Moysan '874 is drawn to a process coating an article with a multilayer coating comprising a plated metal layer of a nickel alloy and a sputter deposited (i.e., physical vapor deposited (PVD)) refractory metal layer, preferably zirconium deposited on the nickel alloy (abstract and Example 1; as applied to instant claims 1-2, 4-5, and 21-24).

The article is comprised of a platable metal or metallic alloy substrate such as brass (col. 2, lines 9-12 as applied to instant claims 55 and 56). Although zinc is not disclosed, the skilled artisan would have found it obvious to use zinc as well since it is considered a type of platable metal (as applied to instant claim 57).

The article can be any type of material such as lamps, door knobs, door handles, door escutcheons, an so forth (col. 1, lines 13-16). The skilled artisan would have found it obvious to select the appropriate form of the article dependent upon the intended use of the substrate (as applied to instant claims 59-63).

A refractory metal compound selected from nitrides is also deposited and by example is zirconium nitride (paragraph bridging columns 7 and 8 as applied to instant claims 6-9, 26-28).

The difference between the instant claims and Moysan '874 is that Moysan '874fails to explicitly disclose of a step of subjecting the plated layer to pulses of air to dry the article surface (instant claim 1).

EP '711 discloses of a procedure for blowing off liquid from an object by using pulsating compressed air to dispel the liquid (abstract). This reference particularly teaches that this process is advantageously used in plating processes such as electroplating (page 5 of translation) to

remove and recover electrolytes and further to provide a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 by incorporating the pulsed air process of EP '711 since it would have provided a means to remove and recover excess electrolytes on the surface of the article and also to provide a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects.

14. Claims 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moysan '874 in view of EP '711 as applied to claims 1-2, 4-5, 7-9, 21-24, 26-28, and 55-63 above, and further in view of U.S. patent No. 5,626,972 (Moysan '972) and U.S. patent No. 4,029,556 (Monaco).

The teachings of Moysan '874 and EP '711 have already been discussed. It is considered that claim 31 is identical in content to claim 4. Likewise claims claim 32 and claim 5 are held to be identical in content.

The differences not yet discussed are of: depositing a chrome film over a nickel film (instant claim 29) and depositing the refractory metal film on top of the chrome film (instant claim 30).

Moysan '972 discloses of plating both nickel and thereafter chromium (i.e., chrome) on an article prior to depositing the refractory metal constituents (see col. 1, lines 49-65 and lines 19-36).

Monaco discloses of a plating method wherein various form substrates are first coated with a nickel plating (col. 1, lines 10-14). Standard practice in the art further discloses of electrolytically depositing chromium over the nickel coatings to provide a tarnish resistance which is not only decorative but corrosion resistant (col. 1, lines 18-24). Although the invention of Monaco does not employ chromium (i.e., chrome) it clearly establishes that depositing chrome on a plated nickel film was at the time well known and provided the aforementioned advantages.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 by depositing chromium over the nickel layer and thereafter depositing the refractory metal comprising material as taught by Moysan '972 and Monaco since it is well known in the art in the formation of brass articles to first electrolytically deposit nickel, then chrome on top of the nickel plating prior to refractory metal deposition to provide an article of highly polished brass with wear and corrosion resistance protection.

15. Claim 10-13, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moysan '874 in view of EP '711 as applied to claims 1-2, 4-5, 7-9, 21-24, 26-28, and 55-63 above, and further in view of Moysan '972 and U.S. patent No. 5,558,759 (Pudem) and U.S. patent No. 4,273,837 (Coll-Palagos).

The teachings of Moysan '874 and EP '711 have already been discussed. It is considered that claim 31 is identical in content to claim 4. Likewise claims claim 32 and claim 5 are held to be identical in content.

Moysan '874 discloses of the refractory metal being zirconium (instant claims 12 and 13); if a zirconium nitride film deposited on the zirconium film (instant claims 18 and 20).

The differences not yet discussed are of: plating a copper film on a portion of an article's surface and subsequently plating a nickel layer on said copper layer and a chrome layer on said nickel layer (instant claim 10).

Pudem teaches of metal finishing processes wherein a first copper plating step is performed and thereafter, to form a brass finish, nickel and then chrome are plated (col. 10, lines 1-19). Coll-Palagos teaches that the use of copper as an intermediate plating metal between the article to be coated and the decorative and protective outer coatings is well known in the art since copper can be easily plated with decorative metals such as chromium (col. 4, lines 43-59 as applied to instant claim 10). Moysan '972 discloses of physical vapor depositing a refractory metal or refractory metal alloy on the chrome layer (instant claim 11).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 by plating the multilayer structure first with a copper plating layer as suggested in the teachings of Pudem and Coll-Palagos since copper plating provides an adherent coating surface on a substrate to enhance the adherence of subsequently plated materials with the substrate. The combined structure would have improved the decorative and protective characteristics of the article of Moysan '874.

16. Claims 14-17, 19, and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moysan '874 in view of Moysan '972, Monaco, as applied to claims above, and further in view of U.S. patent No. 5,922,478 (Welty).

The teachings of Moysan '874, Moysan '972, Monaco, and have already been discussed.

The difference not yet discussed is of depositing the claimed sandwich coating (instant claims 14 and 33) nor of depositing the particular films thereafter (instant claims 15-17, 19, and 32-36).

Welty discloses of coating an article with a nickel layer, chrome layer, a refractory metal layer (preferably zirconium), a sandwich layer comprised of a plurality of alternating layers of a refractory metal compound and a refractory metal compound layer (see abstract). Thereafter zirconium nitride film 32 and layer 34 of reaction products of a refractory metal or refractory metal alloy, oxygen and nitrogen or of a refractory metal oxide or refractory metal alloy oxide (col. 7, lines 8-13).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 with the alternating sandwich layers as taught by Welty since it would have provided wear resistance, corrosion protection, and acid resistance to the coated article.

Double Patenting

17. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

18. Claims 1-2, 4-5, 7-9, 21-24, 26-36, and 55-63 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-5, 7-40, and 43-63 of copending Application No. 09/239,581. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

The copending application claims the same invention. The plating process is claimed as an electroplating process. The examiner has read application 09/334,974 (instant application) in light of the specification. Therein, the examiner has found no other teaching of a plating process other than electroplating. Therefore, since the only plating process in the instant application is an electroplating process and no other plating process taught, the claims are only limited to such a process and raises the issue of statutory double patenting.

19. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

20. Claims 1-2, 4-5, 7-24, 26-36, and 55-63 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over all claims of U.S. Patent No. 5,879,532 in view of EP '711. Although the conflicting claims are not identical, they are not patentably distinct from each.

U.S. patent No. 5,879, 532 claims teaches all of the limitations as found in instant claim 1 (see prior art claim 1). The dependent claims of both the present application and prior art recited above are identical in content as evident in the comparison of the claimed subject matter.

The differences between the instant claims and the claims of U.S. patent No. 5,879, 532 is that the instant claims broaden the plating to encompass any plating process and further recite that after plating, the article is subjected to pulses of air.

U.S. patent No. 5,879, 532 teaches of a specific plating process being electroplating and that the electroplated layer is subjected to pulse blow drying. EP '711 discloses a process for air pulse drying substrates to remove and recover electrolytes and further to provide a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects (as discussed above).

Although U.S. patent No. 5,879, 532 does not specify the gas as air, it would have been obvious to subject the article with any gas source which can provide a means for drying an electroplated material. Air is a well known means for preforming such a process.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of U.S. patent No. 5,879,532 by using the drying process of EP '711 since it would have removed and recovered electrolytes and further provided a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects.

21. Claims 1-2, 4-5, 7-9, 21-24, 26-36, and 55-63 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-27 of copending Application No. 09/264,361. Although the conflicting claims are not identical, they are not patentably distinct from each other because.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Copending Application No. 09/264,361 claims a process of depositing a multilayer coating comprising plating at least one layer on an article, subjecting the article to pulse blow dry, and vapor depositing a layer on the plated layer.

The difference between the instant claims and those of Copending Application No. 09/264,361 is that the pending application forms the plated layer by electrodeposition and thereafter chemically vapor deposits a layer on the electroplated layer.

Numerous methods for plating a metal or metal alloy on a film such as sputtering, CVD, and electroplating techniques are conventionally known. Any of these general processes could have been selected by the skilled artisan as a matter of preference since each of these processes are capable of metal or metal alloy film deposition on an article.

Furthermore it would have been obvious to specifically use CVD as the vapor deposition. The instant claims teach that vapor deposition is the means for depositing a layer on the plated layer. To the skilled artisan the phrase vapor deposition, in it's broadest sense, is known to encompass both CVD and PVD. Therefore, the instant claims suggest that either method could be employed such as the specific CVD process in copending claim 1.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of the instant claims by specifically plating an initial layer by electrodeposition since it would have provided a means for forming a film on an article. As well it would have been obvious to specifically select CVD as the vapor deposition process as suggested in the instant claims and specified in the copending claims since it would have provided a means to deposit a layer on a given article.

22. Claims 1-2, 4-5, 7-24, 26-36, and 55-63 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5, 7-40, and 43-61 of copending Application No. 09/239,581. Although the conflicting claims are not identical, they are not patentably distinct from each other because.

Although this application has also been applied as a statutory double patenting rejection, in the event that applicant overcomes that rejection, the examiner additionally considers the copending claimed invention to be obvious over the instantly claimed invention.

Copending Application No. 09/239,581 claims a multilayer deposition process comprising the steps of: plating a metal or metal alloy layer on an article; exposing the layer to air pulses; vapor depositing a refractory metal, refractory metal alloy, refractory metal compound, or refractory metal alloy compound on a portion of the plated layer.

The difference between the instant claims and those of Copending Application No. 09/239,581 is that the pending application specifies the plating process as an electroplating process.

The instant claim suggests that plating process be a liquid plating process. The pulses of air are used to dry the article prior to the vapor deposition step.. Therefore, it is apparent that the plated metal is from a liquid plating source. Electroplating is a conventionally used liquid plating process wherein post plating further entails a drying step.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of the copending application by selecting any plating process that is known to plate a metal or metal alloy and selection of the plating process would merely constitute a matter of preference.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Specification

23. The disclosure is objected to because of the following informalities: The specification requires an introductory paragraph on page 1 wherein specific reference must be made to the applications of which this instant application is a continuation of (See MPEP 201.11 and iem 24 of this office action). Appropriate correction is required.

Priority

24. If applicant desires priority under 35 U.S.C. 120 based upon a previously filed copending application, specific reference to the earlier filed application must be made in the instant application. This should appear as the first sentence of the specification following the title, preferably as a separate paragraph. The status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become a patent, the expression "now Patent No._____" should follow the filing date of the parent application. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.

Conclusion

25. In the event that applicant amends the claims, it is respectfully requested that applicant point out where and/or how the originally filed disclosure supports the amendment(s) (i.e.,

page(s) and line(s); figure(s); etc.). By doing so, the examiner can clearly locate such support and reduce the probability of new matter rejections.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (703) 305-0635. The examiner can normally be reached on Monday through Thursday from 8:30 a.m. to 5:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen, can be reached on (703) 308-3322. FAX communications should be sent to the appropriate FAX number: (703) 305-3599 for After Final Responses only; (703) 305-7718 for all other responses. FAXES received after 4 p.m. will not be processed until the following business day. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

gc

NAM NGUYEN
PRIMARY EXAMINER
GROUP 1100

September 30, 1999